Volume 23 Contents

January

Editorial 1
Dietary Antioxidants Protection Against Oxidative Stress. S Uddin and S Ahmad 2
The IUBMB and Biochemical Education. F Vella 8
What are the Appropriate Curriculum Contents for Biochemistry Courses in Veterinary Medicine? A A D Correia and J H R D Correia 10
The Status of Biochemistry in Myanmar Medical Institutes. M Win 12
Biochemistry Teaching in Mauritius. R Choolun 13
Protein Science—A Laboratory Course. H S Hendrickson, J L Giannini, J P Bergstrom, S N Johnson and P A Leland 14
BASC Booklets (The Biochemical Society) 17
Evolving Assessment Strategies for Undergraduate Laboratory Practical Classes. J J Gaffney, R W Attwell, M M Dawson, I Graham, C A Smith and J Willcox 18
Book Reviews in Brief 20
Preclinical Medical Training Using the Integrated System in Dokuz Eylül University Medical School. G Güner, M Sakizli, I Erdamar, B Önvural and K Ceryan 21
The Energy Cost of Urea Synthesis: A Reappraisal. T N Pattabiraman 24
The Introduction of Changes in Post-16 Science Education in UK and the Possible Impact on Higher Education Courses. C A Phillips 26
Features Section
Problem-Based Learning. C A Smith 32
Teaching Metabolic Pathways to Understand its Regulations. V H Mulimani 32
Computer Aided Learning. R P Learmonth 34
ENZYPLOT: A Microcomputer Assisted Program for Teaching Enzyme Kinetics. F A Leone, J A Baranauskas and P Ciancaglini 35
Experimental Section
Teaching Biochemistry to Wildlife Management and Oceanology Students: Kinetics of LDH Isozymes in Brook Charr. P Rioux and P U Blier 38
Designing a Coupled Assay System for Aspartate Aminotransferase. P M Arnold and G R Parslow 40
A Rapid and Inexpensive Procedure for the Determination of Proteolytic Activity. S Castro and A M B Cantera 41
Videotape Reviews 43
Book Reviews 44
Letter to the Editor 51
Lexicon 52
Monitor 53

April

Editorial 55
Advances in the Molecular Recognition of DNA—A Step Towards Therapeutic Drug Design. A M Kayastha, P Prabhakar and O P Malhotra 56
Formative Assessment Workshops: Feedback Sessions for Large Classes. M Carroll 65
An Alternative Method for Teaching the Complement System. M L Scroferneker, F H C Soria and A S Shiba 67
Workshop on "New Trends in Biochemistry and Molecular Biology" held in China 68
Laboratory Practical Class Provision in a First-year Undergraduate Modular Programme. C A Smith, R W Attwell, M M Dawson, J J Gaffney, I Graham and J Willcox 69
A Full Problem-solving Biochemistry Program. A V Tomey and R A H Fernandez 71
Biochemical Education at Hanoi University. P T T Châu 73
Opinions of Uludağ University Medical School's Research Assistants about the Teaching of Basic Medical Sciences. M Dirican and A H Güler 77
Book Review 78
A Model for Teaching Biochemistry to Medical Students in Libya. K O Sedaa and D K Murali 79
The Assignment of pK_a Values to Functional Groups in Amino Acids. I G Darvey 80
Glycoconjugates in Relation to Glycopathology and Glycotherapeutics. J A Cabezas 82

Constructing Energy Maps of Metabolic Cycles. G Banfalvi 83
Features Section
Problem-Based Learning. C A Smith 86
A Spectacular Demonstration of the Disaccharide Link. F Cadet 86
Book Reviews 89
Computer Aided Learning. R P Learmonth 91
Automated Data Collection from "Manual" Hitachi Model U-1100 Spectrophotometers and Analysis by means of Excel Spreadsheets. D Titheridge, E Hitchings and P Barling 91
Report on the 16th International Congress of Biochemistry and Molecular Biology, Young Scientists Programme. S K Sharma 96
The Use of Fura 2 for Measurement of Free Calcium Concentration. S K Kong and C Y Lee 97
Binding of Bilirubin to Goat Serum Albumin: Determination of Binding Constant. S Tayyab and V D Trivedi 98
Memorization Through Games. S Tayyab 100
Importance of the Time Scale of the Measurement Apparatus for Time Resolution of an Oxidation–Reduction Biological Event. M Prats and F Rodriguez 101
Letters to the Editor 103
Book Reviews 104
Lexicon 117
Monitor 118
Forthcoming Meetings 118

July

Editorial 119
New Challenges in the Teaching of Modern Biology. P M Bhargava 120
Forthcoming Meetings 126
Survey of Biochemical Education in Japanese Universities. Y Kagawa 127
Biochemical Education in India 129
An Easy Approach to the Calvin Cycle. G González 132
Drama: A Novel Evaluation Tool. E de Paula, C da Costa and D vaz de Macedo 133
On Teaching Biochemistry: A Heuristic-teleonomic Approach. B Mantovani 135
Michaelis-Menten Data: Misleading Textbook Examples. M J Selwyn 138
What Fraction of Glycine Molecules are Nonionic in a Solution of Glycine at a pH Value Equal to the Isoelectric Point of Glycine? I G Darvey 141
General Practitioners' Opinions about the Basic Sciences in Relation to Medicine. E Ulukaya and A H Guler 143
Standard Free Energy Change is Constant but Temperature Dependent. M Simsek and N Al-Wardy 144
Citric Acid Production: A Practical Introduction to Biotechnology for First-year Undergraduate Students. V-N Tariq, L A J Stefani and A C Butcher 145
Features Section
Problem-based Learning. C A Smith 149
Problem-based Learning and Problem-solving Skills. C A Smith, S C Powell and E J Wood 149
Journal Review 152
Problem-based Understanding of Active Transport. G Inesi 152
Computer Aided Learning. R P Learmonth 154
Elucidation and Manipulation of Metabolic Pathways: Courseware Developed Using Authorware Professional. R O Jenkins and T G Cartledge 155
The Use and Benefits of Computer Aided Learning in the Assessment of the Laboratory Exercise "Enzyme Induction in *Escherichia coli*". F Pamula, G J Wigmore and J F Wheldrake 158
Letter to the Editor 161
Experimental Section
Experimental Determination of the Free Energy of Unfolding of Proteins. S Tayyab, M U Siddiqui and N Ahmad 162
Derivation of the Thermodynamic Parameters Involved in the Elucidation of Protein Thermal Profiles. A A Saboury and A A Moosavi-Movahedi 164
Guidelines for Determining the Glycosylation Characteristics of Glycoconjugates by Simple Procedures. J A Cabezas 168

Teaching Biochemistry to Wildlife Management and Oceanology Students: Metabolism, Enzyme Activities and Cold Adaptation in Goldfish. P Rioux and P Blier 170
Membrane Transport. M Prats 172
Videotape Review 173
Book Reviews 174
Lexicon 181
Monitor 182

October

Editorial 183
The Information Superhighway and Biochemistry. N A Maughan and J H Parish 184
Biomedical Training for Developing Countries. C A Pasternak 190
Biochemical Education: A Strategy to Introduce Young Students to Biochemical Research 192
Biotechnology Development in Hong Kong: An Innovative Food Science and Technology Degree Course for In-service Higher Diploma Graduates. C Y Ma, K C Kwok and J C Tsang 193
Flexible Training in Biotechnology. R O Jenkins, B Tanner and C K Leach 195
What Graphs should we show Students when Teaching Them about the Ionic or Acid–Base Properties of Amino Acids? I G Darvey 197
The Case for Chance in Teaching Biochemistry: The Importance of Statistics. J H R D Correia 200
Biotechnology Education 201
Book Review 201
Features Section
Problem-based Learning. C A Smith 202
Some Thoughts on Problem-based Learning. P N Campbell 202
A New Erythrocyte Enzyme Polymorphism? S G Welch and M Carroll 204
Computer Aided Learning. R P Learmonth 208
Kinemages as a Visualization Tool for Biochemistry Classes. S L Weldon and M A Jones 208
Book Review 212
Experimental Section
A Practical Experiment on Enzyme Immobilization and Characterization of the Immobilized Derivatives. A Manjón, J L Iborra, P Lozano and M Cánovas 213
An Experiment Illustrating Catabolite Repression in Yeast. W L Baker 216
An Experiment on the Chemical Modification of Essential Tryptophan Residues of Barley β-Amylase. V H Mulimani and J Lalitha 218
Creating Belousov–Zhabotinsky Reactions in a Petri Dish. M Fernández-Infantes and M Ángel Medina 219
Videotape Reviews 220
Book Reviews 220
Lexicon 227
Monitor 228